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## Rosa in North Dakota.

BY J. LUNELL.

*Clavis analytica.*

A. Spinae infrastipulares absentes vel inconspicuae. Caudices setosi vel spinosi.
  a. Caudices herbacei, nec umquam magis quam suffrutescentes, 1–2 pedales.
    b. Foliola 7–11, obovata, subtus dense pubescentia, spinae rigidae....1. *R. heliophila* Greene.
    b. Foliola 7–11, inter quae posita sunt 1–8 foliola parva.....2. *R. heliophila* var. *foliosissima.*
    b. Foliola 5–9, subtus glabra, nervis medianis et marginibus exceptis, spinae fragiles, paene setis consimiles..3. *R. Lunellii* Greene.
  a. Caudices arbusta lignea sunt, 2–5 pedales.
    c. Foliola 5–9, receptacula 1–1.5 cm. diametro, achaenia 4 mm. alta.
      d. Sepala integra vel subintegra.....4. *R. gratiosa.*
      d. Sepala exteriora valde pinnatifida.....5. *R. gratiosa* var. *dulcissima.*
    c. Foliola 7–11, receptacula 2 cm. diametro, achaenia 6 mm. alta.....
.....6. *R. polyanthema* sp. nov.

A. Spinae infrastipulares presentes et ceteris spinis ampliores. Caudices non setosi.
  a. Rachis folii assiduo spinosa.
    b. Petioli, petioluli, rachis glabri, lamina

folioli inferior et nervus eius medianus glabri vel subglabri.....7. *R. deserta.*

b. Petioli, petioluli, rachis, nervus folii medianus inferior glanduloso-hispidi, folia subtus pubescentia et resinosa. .....8. *R. poetica* sp. nov.

a. Rachis folii numquam vel not assiduo spinosa. Foliola subtus dense pubescentia.

b. Spinae robustae, rectae vel aliquantulum curvatae...9. *R. terrens* (*R. Maximiliani* Nees?).

b. Spinae graciles, rectae.

c. Partes plantae variae omnes valde confertae.....10. *R. subnuda.*

c. Partes plantae variae omnino non confertae.....11. *R. naiadum* sp. nov.

*Analytical key.*

A. Infrastipular spines wanting or not prominent. Stems bristly or prickly.

a. Stems herbaceous and never more than suffrutescent, 1–2 ft. high.

b. Leaflets 7–11, obovate, densely pubescent beneath, prickles stiff... 1. *R. heliophila* Greene.

b. Leaflets 7–11, and between them 1–8 small leaflets.....2. *R. heliophila* var. *foliosissima.*

b. Leaflets 5–9, glabrous beneath, except on the midveins and margins, prickles soft, almost as bristles.....3. *R. Lunellii* Greene.

a. Stems woody shrubs, 2–5 ft. high.

c. Leaflets 5-9, receptacles 1-1.5 cm. in diameter, achenes 4 mm. high.

d. Sepals entire, or nearly so....4. *R. gratiosa.*

d. Outer sepals strongly pinnatifid.....5. *R. gratiosa* var. *dulcissima.*

c. Leaflets 7-11, receptacles 2 cm. in diameter, achenes 6 mm. high.....6. *R. polyamthema* sp. nov.

A. Infrastipular spines present, and larger than the other spines. Stems not bristly.

a. Leaf-rachis regularly prickly.

b. Petioles, petiolules and rachis glabrous, lower surface of leaf and median nerve glabrous or nearly so.....7. *R. deserta.*

b. Petioles, petiolules, rachis and lower median nerve of leaflet glandular-hispid, leaflets pubescent and resinous beneath.....8. *R. poetica* sp. nov.

a. Leaf-rachis not at all, or irregularly prickly. Leaflets densely pubescent beneath.

b. Spines stout and straight or somewhat curved....9. *R. terrens* (*R. Maximiliani* Nees?).

b. Spines straight and slender.

c. All the parts very crowded. In rolling prairies, ravines, thickets and open woods.....10. *R. subnuda.*

c. The parts not crowded at all. In dense woodland, bordering rivers.....11. *R. naiadum* sp. nov.

1. *Rosa heliophila* Greene.

Vide leaflets II, 132 (1911), to replace the untenable name *R. pratincola*, to be found in Pittonia IV, 13, (1899), previously applied to a species of European origin. As this is the common prairie rose, growing everywhere on high and low virgin prairie, and also in cultivated fields, it is without doubt the plant suggested by our present governor, L. B. Hanna in 1907 and approved by the legislature as the State Flower of North Dakota.

2. *Rosa heliophila* var. *foliosissima.* Vide Midl. Nat. 157, (1912).

3. *Rosa Lunellii* Greene. Vide Leaflets II, 132, (1911).

4. *Rosa gratiosa.* Vide Midl. Nat. II, 154, (1912).

5. *Rosa gratiosa* var. *dulcissima.*

Though the pinnatifid outer sepals are a constant character in the shrub used as type, and though they are a strong character in other species, they are irreliable in this special group of roses, and I have for this reason reduced the species described in Midl. Nat. II. 287, (1912) to variety rank.

6. **Rosa polyanthema** sp. nov.

Rami, recentes, floriferi et steriles, spinis rectis, deciduis, neque longitudine admodum variabilibus, tenuissimis, setis haud dissimilibus armati. Stipulae angustissimae, integrae, subtus valde tomentosae, magis minusve glanduliferae, marginaliter saltem. Rachis folii et petioluli dense albido-tomentosi, glanduliferae, marginaliter saltem. Rachis folii et petioluli dense albido - tomentosi, glanduliferi, plerumque spinosi. Foliola 7–plerumque 9, in surculis recentibus validis saepe 11, oblonga vel obovata vel paene orbicularia, basi saepissime cuneata, apice obtuso vel retuso vel acuto, 2.5–5 cm. longa, 1.5–3.5 cm. lata, petiolulata, serrata, dentibus procurvis, fere glabrata superne, glauca, magis minusve tomentulosa, glandulosa etiam subtus, praesertim nervo med. ano. Flores corymbosi, numerosi (usque 33) vel solitarii. Sepala lanceolata, interne et marginaliter albido-lanata,tergo et apic ibus longis glandulis stipitatis hispida, exteriora pinnatifida. Receptaculum rubrum, pomiforme vel pyriforme, glabrum, 2 cm. diametro. Achaenia 6 mm. longa.

The young branches, flowering as well as sterile, covered with a profusion of straight, deciduous prickles, not very variable in length, very weak, being hardly more than bristles. Stipules very narrow, entire, densely tomentose beneath, more or less glanduliferous, at least on the margins. Leaf-rachis and petiolules densely white-tomentose, glanduliferous, and usually prickly. Leaflets 7—usually 9, on vigorous young shoots often 11, oblong, or obovate, or nearly orbicular, mostly cuneate at base, apex obtuse, or notched, or acute, 2.5-5 cm. long, 1.5-3.5 cm. wide, petiolulate, serrate, with the teeth directed forwards, almost glabrate above, glaucous and more or less tomentulose and even glandular beneath, especially on the main nerve. Flowers corymbose, numerous (even to 33) to solitary. Sepals lanceolate, white-woolly within and on the margins, hispid with stipitate glands on the whole back, including the long tips, the outer ones pinnatifid. Receptacle red, pomiform or pyriform, glabrous, 2 cm. in diameter. Achenes 6 mm. long.

This rose, by far most exuberant among its allies, was collected by the writer both in flower and fruit on August 23, 1913 in alluvial ground on the banks of the Missouri, not far from Bismarck, Burleigh County.

7. *Rosa deserta.* Vide Midl. Nat. II., 156, (1912).

8. **Rosa poetica** sp. nov.

Arbustum fere metrale, spinis gracilibus, sed firmis, rectis, neque basim versus valde ampliatis, sub stipuliis permanentioribus, et ramis nitidis, obscure fuscis vestitum. Stipulae superne glabrae, subtus pubescentes, setis apice glandulosis marginatae. Rachis et nervus medianus inferior folii, petioli et petioluli glandulis magis minusve stipitatis hispidi. Praeterea rachis apicibus glandulosis setosa est, et spinosa. Foliola 7-9, petiolulata, ovalia, basi magis minusve cuneata, apice obtuso vel acuto, bis serrata subtus resinosa. Sepala integra vel lobata. Flores corymbosi vel solitarii. Receptaculum rubrum, globulare vel pyriforme, apice elongato, 1 cm. diametro.

Shrub nearly meter-high, with slender, but firm, straight prickles, not considerably thickened at base, quite persistent beneath the stipules, and with shining, dark-brown branches. Stipules glabrous above, pubescent beneath, margined with glandular-tipped setae. Leaf-rachis, lower median leaflet-nerve, petioles and petiolules hispid with more or less stipitate glands. Rachis, in addition, bristly with glandular tips, prickly. Leaflets 7-9, petiolulate, oval, with more or less cuneate base and obtuse or acute apex, doubly serrate, glabrate above, pubescent and resinous beneath. Flowers corymbose or solitary. Sepals entire or lobed. Receptaculum red, globular or pyriform, with pointed apex, 1 cm. in diameter.

This plainly distinct ally of *R. Fendleri* was collected by the writer on August 23, 1913, on the banks of the Missouri, not far from Bismarck, Burleigh County.

9. *Rosa terrens.* Vide Midl. Nat. II., 155, (1912).

Considered distinct on account of its enormous spines, etc., but perhaps correctly suggested by Dr. P. A. Rydberg as identical with *R. Maximiliani* Ness., though this species has a large yellow fruit, as stated in Rydberg's Flora of Montana, 255 (1900.)

10. *Rosa subnuda.* Vide Midl. Nat. II. 153. (1912).

11. **Rosa naiadum** sp. nov.

Caudex et rami lignei obscure fusci, nitidi, aeque atque rami herbacei spinis fragilibus, rectis, e basi compressis, erectis vel pronis, infrastipularibus ceteris permanentioribus vestiti, vel paene vel omnino nudi. Stipulae amplae, marginibus denticulatis

et dentibus apice glandulosis, superne glabrae, subtus pubescentes. Rachis folii villosa, saepe glandulis et interdum spinis conspersa. Foliola 5-plerumque 7, in surculis recentioribus non raro 9, obovata usque ovalia, obtusa, basi magis minusve cuneata, serrata, serraturis procurvis, ampla, 2.5-4 cm. longa, petiolulata, superne glabra, subtus et praecipue marginibus et nervis tomentulosa. Flores nitidi, rubicundi, circiter 5 cm. lati, corymbosi vel solitarii. Sepala lanceolata, integra vel lobata, interne et marginaliter albido-lanata, tergo tomentuloso. Receptaculum rubrum, globulare, 1.5 cm. diametro.

Stem and woody branches dark-brown, shining, sparingly dotted, as well as the herbaceous branches, with weak, straight prickles, erect or inclined, compressed from the base, the infra-stipular ones more persistent that the others, or almost or altogether naked. Stipules large, with denticulate margins and glandular-tipped teeth, glabrous above, pubescent beneath. Leaf-rachis villous, often with glandular admixture and an occasional prickle. Leaflets 5—usually 7, on young shoots not seldom 9, obovate to oval, obtuse, with more or less cuneate base, serrate, with the serratures directed forwards, large, 2.5-4 cm. long, petiolulate, glabrous above, tomentulose beneath, especially on margins and nerves. Flowers bright pink, about 5 cm. wide, corymbose or solitary. Sepals lanceolate, entire or lobed, white-woolly within and on the margins, tomentulose on the back. Receptacle red, globular, 1.5 cm. in diameter.

This species has an ample, not at all crowded foliage, which makes it distinguishable at first glance from its ally, *R. subnuda*, and was collected by the writer on the banks of Mouse River at Minot, Ward County, on July 1, 1909 (type), and on the banks of James River at Jamestown, Stutsman County, on August 25, 1913.

Writings of earlier dates, if any of them should be found irreconcilable with data given in this paper, are herewith repealed, as far as the differences go. The author hopes that the contributions here made will do their share in aiding to a better understanding of this extremely difficult and altogether too long time neglected genus. And he further hopes and wishes that they will exercise a stimulating influence in favor of a continued study of the multiform roses of his state.

*Leeds, North Dakota.*

# New Plants from North Dakota.—XI.

BY J. LUNELL.

**Antennaria angustiarum** sp. nov.

Planta in coloniis parvis, marium et feminarum in vicem vicinis, genita. Stolones longitudinem caulis dimidiam obtinentes. Plantae stamineae et pistillatae longitudine aequales, 10–12 cm. altae, femineae lente aliquantulum elongatae. Caulis infimus foliis 4–7 lanceolatis, superiorum proximis minoribus verticillatim cinctus. Folia basilaria tomento laneo subtili, remisso et radendo facile amoto, post pluvias fere pellucido et sub lente tantum percepto, superne vestita. Simul folia stolonum radicantium tomento aeque appresso–sericeo, per annum primum manente, gaudent. Folia basilaria 2–3 cm. longa, 8–12 mm. lata, late oblanceolata vel elliptica, basi cuneata, petiolo alato sensim angustato, textura tenui sed firma. Mas capitula pauca, plerumque 3–4, dense congesta habet, femina capitula 2–5, primum cumulata, postea corymbosa, pedicellis longitudine varia brevibus ornata. Involucra 8 mm. alta. Bracteae maris albae, latae, obtusae, integrae, feminae albae, externis macula fusca addita, angustae, acutae, integrae.

Plant growing in small colonies, males and females near each other. Stolons about one-half the length of the stem. Mature staminate and pistillate plants of equal length, 10–12 cm. high, the pistillate becoming somewhat longer in the late fruiting stage. The lowest end of the stem encircled by a rosette of 4–7 lanceolate leaves, smaller than the leaves next above them on the stem. Primary basal leaves carry on the upper side a thin, woolly tomentum, loose and easily removed by scratching, after rains looking almost transparent, and then almost needing the lens to become visible. At the same time the leaves on the rooting stolons have an equally appressed silky tomentum which they retain during the whole first season. Basal leaves 2–3 cm. long, 8–12 mm. wide, broadly oblanceolate or elliptic, with a cuneate base gradually narrowed into the winged petiole, their texture being thin, but firm. The male plant has a dense cluster of few, generally 3 or 4 heads, the female plant has 2–5 heads, at first clustered, later corymbose with short pedicels of variable length. Involucres 8

mm. high. Male bracts white, broad, obtuse, entire. Female bracts white, the outer with a brown spot, narrow, acute, entire.

This species is easily differentiated from its allies by the characteristic outline as well as pubescence of its leaves, and by its tall, few-headed staminate plants. Its home is the high, rolling prairie, and it was collected by the writer in a grassy cut, on both sides lined in profusion with *Eleagnus argentea*, 3 or 4 feet high, on the upper middle plateau of Butte, Benson County, the type specimen dated June 1, 1913.

**Chamaesyce glyptosperma** var. **integrata** var. nov.

Marginibus foliorum integris.

Plant with entire leaf margins.

Collected at Leeds, Benson County, by the writer, on Aug. 20, 1906.

**Amarella theiantha** var. **lactea** var. nov.

Corolla albido-flavescens.

Corolla ochroleucous. In the type the color of the tube is a bright sulphur-yellow, and of the lobes white.

In low gravelly prairie, at Towner, McHenry County.

**Amarella theiantha** var. **livida** var. nov.

Lobi corollae obscure lividi.

Corolla lobes of a dull bluish color.

On the lower end of hillsides, occasionally at Butte, Benson County.

**Epilobium adenocaulon** var. **pseudocoloratum** var. nov.

Caulis in aestate posteriore suboles basilares subsessiles evolvens; folia ampla, membranacea, lanceolata, serrulata, conspicue petiolata; petioli alati.

Stem developing subsessile basal rosettes during the latter half of the summer; leaves large, membranous, lanceolate, serrulate, distinctly perioled; petiole winged.

In a cold bog along a rill in the woodland encircling Pleasant Lake, Benson County, August 14, 1911.

**Cirsium nebraskense** var. **formidolosum** var. nov.

Spinae foliorum 7 mm. longae et lobi profundi.

Leaf spines 7 mm. long, even stouter than the spines of *C. ochrocentrum*. Leaves as in var. *discissum*, which is the prevalent

form and has weak spines of variable length (2–5 mm.). The type is in my herbarium and identical with No. 49, Fasc. V. of Petrak's Cirsiotheca Universa, where it has been introduced under the name of *Cirsium Flodmannii* Petrak. It was collected by J. C. Blumer near Minot, Ward County: "America borealis," North Dakota, in pratis siccis, arenosis prope pagum "Minot," 9–12. IX. 1911.

**Erigeron asper** var. **subinteger** var. nov.

Quaedam folia denticulata.

Some leaves denticulate.

Sparingly on prairies at Kulm, La Moure County, where it was collected by Dr. J. F. Brenckle on May 15, 1912.

**Grindelia squarrosa** var. **quasiperennis** var. nov.

Folia denticulata, basin versus angustata.

Leaves denticulate, narrowed toward the base.

Occasionally found within Benson County, in barren, alkaline soil.

**Amelanchier macrocarpa** sp. nov.

Arbustum 0.5–2 m. altum. Folia recentiora tomento pallido, flavido-albo, mox calvescente dense operta, surculi autem recentes, pedunculi, pedicelli, petioli, nervi mediani foliorum laminae inferioris tardissime detersi. Folia suborbiculari-oblonga, basi rotunda vel subcordata vel raro acutula, apice rotundato vel retuso vel mucronato, recentia in longitudinem plicata, 2–6 cm. longa, 1.5–4.5 cm. lata, vetustiora firmissima, candide et saturate viridia, vehementer venosa, praecipue in marginis partibus duobus e tribus inaequaliter serrato-dentata, dentibus apice callosis, alia autem folia dentibus paucis minimis aliaque marginibus integris vestita. Petala circiter 8 mm. longa, obovata. Pedicelli fructiferi 3–10 mm. longi. Pomum succulentum, dulce ,atrum vel atropurpureum, 10 mm. diametro, ab Idibus Juniis per mensem Julium maturum. Flores de Aprili ulteriore ad Junium priorem apparent.

Shrubs 0.5–2 m. high. The young leaves densely covered with a pale yellowish-white tomentum, soon becoming glabrate, but the young twigs, peduncles, pedicels, petioles and median nerves of the leaves on the lower side clearing off very late. Leaves suborbicular-oblong, with rounded or subcordate or rarely acutish base, and with rounded or retuse or mucronate apex, folded length-

wise when young, 2–6 cm. long, 1.5–4.5 cm. broad (comparatively broader than in *A. oblongifolia*), older of very firm texture, bright- and deep-green, strongly veined, irregularly serrate-dentate, especially on the upper two-thirds of their margins, with small callous-tipped teeth, but other leaves have only a few, very small teeth, and still others have even entire margins. Petals about 8 mm. long, obovate. Fruiting pedicels 3–10 mm. long. Pome juicy, sweet, black or black-purple, 10 mm. in diameter, ripe during the latter part of June–July, while the species is flowering from the last part of April until the first part of June. It reaches its largest size in moist woods, and is comparatively small in rocky uplands. Besides being planted for its ornamental effect in lawns, this shrub is highly valued for culinary purposes on account of its large, delicious pomes. To the laity, however, the size does not entitle them to such a dignified rank, but simply reduces them to "berries," as a pome is expected to have at least the size of a crabapple.

Usually distributed as *A. alnifolia* Nutt., but this shrub has leaves glaucous and coarsely crenately serrate-dentate above the middle, entire below the middle, and coming nearer to the orbicular outline than ours; the pomes are purple with bloom, 6–8 mm. in diameter. It grows on banks of streams. Our species is nearest related to *A. oblongifolia* (T. & G.) Roem., but this shrub has leaves oblong, 4–6 cm. long, 1.5–2.8 cm. broad (thus narrower than ours), finely and evenly serrate, light-green, and its pome is smaller, 6 mm. in diameter, and crimson or purplish.

The type was collected by the writer at Pleasant Lake, Benson County, on May 21, 1912 and July 28, 1911.

**Rhus angustiarum** sp. nov.

Caudex subterraneus ramos caudicibus similes sursum versus emittens, anno 1: mo pedales, 2: do 3-pedales, 3:o 5-pedales, 4: to 7-pedales. Pars tota lignea nuda, gemmis lucidis succulentis in locos foliorum priorum substitutis, fusca, lenticellata. Apices herbacei tempestivi er petioli tegmento glauce scente purpureo-maculoso primitus vestiti, tarde obscure spadices, glutinosi. Folia 15–30 cm. longa, valde conferta. Foliola 13–17, interdum 19, mensura et forma admodum variabilia, 3–9 cm. longa, oblongo-lanceolata, apice acuminato vel acuto, basi rotundata, foliola foliorum superiorum ramorum frugiferorum panee sessilia, foliorum

autem inferiorum et omnia ramorum sterilium petiolos conspicuos usque 4 mm. longos vel breviores gerentia, serraturae aequales vel inaequales, utrinque 3–18, neque profundae neque acres, facies superior obscure viridis, nitida, matura siccata lucide viridis, inferior folioli recentis lucide viridis, maturantis pallide glauca, maturi insigniter dealbata. Panicula et florens et frugifera pyramidalis, densa, in saltibus minor (3–9 cm. alta), in campis apertis maior (7–15 cm. alta). Fructus complanati, ambitu paene orbiculares, apice brevi, immaturi succulenti, maturi sicci, 4 mm. alti.

Stem subterranean, sending forth stem-like branches upwards, these being one foot high in the first year, 3 feet in the second year, 5 feet in the third year, and 7 feet in the fourth year, which is the maximum height seen by the writer. The wooden part nude throughout, with scattered, light, juicy buds on the sites of former leaves, brown, lenticellate. The young herbaceous tops and the petioles with a purple-spotted glaucescent bloom early in the season, later dark chestnut-colored, glutinous. Leaves 15–30 cm. long, very crowded. Leaflets 13–17, sometimes 19, very variable in size and outline, 3–9 cm. long, oblong-lanceolate, with acuminate or acutish apex and rounded base, the leaflets of the upper leaves on the fruiting twigs almost sessile, but those on the lower leaves and all on the sterile twigs very plainly petiolulate with even to 4 mm. long petiolules, serratures even or uneven, 3–18 on a side, not very deep or sharp, upper face dark green, shining, at maturity becoming lightish green in drying, lower face in youngest leaflets light-green, in somewhat older ones pale-glaucous, at maturity remarkably whitened. Panicle pyramidal in flower; also in fruit, being smaller in the woodland (3–9 cm. high), larger on the open prairie (7–15 cm. high), compact. Drupelets flattened, circumference almost orbicular, with a short tip, unripe juicy, ripe dry, 4 mm. high.

In order to differentiate this species from related ones, suffice it to state, that *R. cismontana* Greene has leaflets 11–13, light-green above, 4–6 cm. long, subsessile, serratures 10–12 on each side, and panicle narrowly pyramidal; and that *R. sambucina* Greene has leaflets 11-13, light-green above, 7-10 cm. long, subpetiolulate, serratures 11-12 on each side, and panicle oval, lax.

From the state of Minnesota with its abundance of *R. glabra* segregates this group of shrubs is said to have established itself on the western border of the Red River of the North, but the

writer has not seen any representatives of these allies, which are probably *R. petiolata* Greene or other Minnesota natives. The species here described belongs to central North Dakota, and its only known habitation is 90 miles west of the Red River on the banks of Devil's Lake, where the water basin is narrowed to a channel across which a railroad bridge and a public road have been built. For this reason the place has received its name, Narrows, and hence also is derived the species name of the plant. It was collected by the writer on June 26, 1913, and on August 12 of the same year, at which later date the leaves had already commenced to attire themselves in their gorgeous, scarlet, autumnal garb.

**Dodecatheon thornense** sp. nov.

Caudex perennis, parvus, radiculis fibrosis validis adiunctis. Scapus erectus, procerus, artus, gracilis, interdum autem robustus, 2–6 dm. altus, fistulosus. Folia longitudinis scapi partem quintam usque tertiam attingentia, suberecta, anguste usque late lanceolata, in petiolum longum alatum attenuata, nonnihil succulenta, siccata membranacea, glabra, integra, apice obtusissimo, 10–15 cm. longa, 1.5–3 cm. lata. Bracteae late ovatae, acutae. Calyx ad pedicellum versus sensim reductus, lobi triangulari-lanceolati. Umbella floribus 10–15 plerumque vestita. Pedicelli longitudine variabili, in flore recurvati, in fructu erecti. Deest in typo corolla. Capsula crustacea, subcylindrica, acuta, valvis 5 brevibus apice aperta, 0.7–1.2 cm. longa.

Rootstock perennial, being a small corm with strong fibrous roots attached. Scape erect, tall, narrow and slender, though in some plants quite robust, 2–6 dm. high, hollow. Leaves one-fifth–one-third of the length of the scape, suberect, narrowly—broadly lanceolate, tapering into a long, margined petiole, somewhat fleshy, after drying membranous, glabrous, entire, very obtuse at the apex, 10–15 cm. long, 1.5–3 cm. wide. Bracts broadly ovate, acute. Calyx tapering into the pedicel, lobes triangular-lanceolate. Umbel usually 10–15 flowered. Pedicels of variable length, recurved in flower, erect in fruit. Corolla not seen for the type locality, but will be described in this journal during the next season. Capsule crustaceous, subcylindrical, pointed, opening through 5 short apical valves, 0.7–1.2 cm. long.

This species is plainly distinct from its nearest relative *D. pauciflorum* Greene (a plant distributed from Montana to the

Pacific coast), having leaves much smaller in proportion and of a peculiar cut, narrow, very obtuse, with a leaning to spatulate.

In the year of 1889, month of June, the writer found at Willow City, Bottineau County, a flowering *Dodecatheon* of small size (about 2 dm. high), the growth probably inhibited in part by the extreme drought of the entire season. It is lamentable that the specimen was lost, especially on account of the impossibility to find another one of its kind before the present year, 24 years intervening. It had been found, I believe 10 years ago, at Laureat, Rolette County, by Miss Lela Lovell, now of Minneapolis, and at Thorne, in the same county at a distance of only a few miles from Laureat, four years ago by Prof. C. B. Waldron of the North Dakota Agricultural College, and, thanks to the detailed notes I received from him, I succeeded in securing the fruiting plant on the 11th of July last in the locality where it was discovered by him. I hardly need to add that the species has been named from its habitat. The plant produces an abundance of seeds, and it would unquestionably be well established in moderately moist meadows. But I could not find it where cattle was grazing, and the forbidden spots are scarce. It is therefore no wonder that this species has apparently a desperate struggle for its existence.

*Leeds, North Dakota.*

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## Another Rhus glabra Segregate from Nebraska.

BY J. LUNELL.

**Rhus Hapemanii** sp. nov.

Frutex ramis robustis, striatis, pullis, nitidis, lenticellatis ornatus; frondes amplae et laxae, petiolus et rachis conjuncti 3 dm. longi; foliola 11–17, spatio unciali remota, magnopere petiolulata, acuminata, 9–11 cm. longa, 3–3.5 cm. lata, oblongo-lanceolata, admodum serrata, singulis marginibus circiter 15 serraturas inaequales praebentibus, subcoriacea, subfalcata, lamina superiore magnificenter et profunde viridia, inferiore, et praesertim in speciminibus maturis, vix glaucescentia; paniculae floriferae late pyramidales, 2 dm. altae, basi latissimae; paniculae fructiferae 2 dm. altae, paulum autem angustiores; rami paniculae tomentu-

loso-pubescentes; fructiculi permulti, 3 mm. diametro, subovato-subglobosi.

A shrub with stout, striate, brown, shining, lenticillate branches; foliage large and ample, petiole and rachis together 3 dm. long; leaflets 11–17, about 1 inch apart, strongly petiolulate, acuminate, 9–11 cm. long, 3–3.5 cm. wide, oblong-lanceolate, strongly serrate, with about 15 somewhat uneven serratures on each margin, subcoriaceous, subfalcate, upper face a rich, deep green, lower scarcely glaucescent at all, especially on fruiting specimens; panicle in flower broadly pyramidal, 2 dm. high, widest at base, in fruit of the same height, but not exactly as wide; panicle branches tomentulose-pubescent; druplets many, 3 mm. in diameter, subglobose with an inclination to ovate.

Its ally, *Rhus cismontana* Greene, known from western Nebraska and Kansas, is much smaller in all its parts, has 11–13 leaflets, which are 4–6 cm. long, subsessile and glaucescent beneath, and its fruiting panicle is about 9 cm. high.

The plant just described seems to be a native of southeastern Nebraska, as it was collected near Minden, a locality situated somewhat east of the central perpendicular line in the southern part of that state. As types have been used specimens collected in flower on July 8, 1912, and in fruit on Sept. 12, 1912, by Dr. H. Hapeman, and the species name has been conceived with a view of doing honor to him as the discoverer of this remarkably large and magnificent sumach.

The task of differentiating this species from its allies has been facilitated in great part through the valued helpfulness of Dr. Edward L. Greene, who accentuated the essential points in the determination and added to my gratitude by kindly sending me leaflets of *R. cismontana* both fron Kansas and Nebraska.

*Leeds, North Dakota.*

## Notes on Box-Elders.—I.

BY B. F. BUSH.

Having read Dr. Rydberg's treatment of *Negundo*[1] in Rocky Mountain Flora, I wrote at once to Dr. Nieuwland who obligingly

1 Bull. In. Bot. Club. XL. : 2, p. 54-56. Feb. (1913.)

sent me his paper on Box-elders, real and so-called.[1] After having read and compared these two papers, I began a systematic examination of the Box-elders growing about Courtney, Missouri. Some five or six years ago I decided that we had two, or possibly three, species of *Negundo* here, and was taking the common tree of the river bottom here for *N. Negundo*, and was referring the other with some doubt to *N. Texanum*, a species I was wholly unacquainted with. A large Box-elder is growing in my back yard, which I have known for more than 25 years, and this tree I thought might be the real *N. Negundo*. In rocky woods on the hills around, there is another tree that has densely-velvety twigs, which years ago I referred to *N. Texanum*. Fresh flowering specimens of these two trees were sent to Dr. Rydberg last April, who identified them as *N. Negundo* and *N. interius*, respectively, the latter a tree supposed to inhabit the Rocky Mountain region of Western Nebraska and Western Kansas. As the season advanced and the fruit began to mature, I decided after a careful study of several hundred trees in Jackson County, that these two trees were more properly referred to *N. Nuttalii* and *N. interius*.

I have lately sent good fruiting specimens of these two trees to Dr. Nieuwland, who writes me that they are good specimens of *N. Negundo* and *N. Nuttallii*. As there seems to be some obscurity about these species, I shall give a short examination of the principal characters accorded each, and compare these with those of the trees I now refer to them, that we may the more fully understand them.

Dr. Rydberg in his key to the species of Negundo[2], separates the species into two groups, the first with branches of the season glabrous, or with a few scattered appressed hairs, the second with branches densely-velutinous with short spreading hairs. In the first section he places *N. Negundo* and *N. Nuttallii*, and in the last section *N. interius* and *N. Texanum*.

Dr. Nieuwland agrees with Dr. Rydberg in this distinction so far as *N. Negundo*, *N. Nuttallii* and *N. interius* are concerned, but he does not recognize *N. Texanum* as of specific rank, putting it with *N. Californicum*.[3] Of the four species mentioned above as given by Rydberg in his key, he distinguishes them by the character of the fruit, which in *N. Negundo* and *N. Texanum* is

1. Midland Naturalist, 2:6, p. 129-140. Nov. (1911.)
2. Rydberg, l. c. p. 54. 3. Nieuwland, l. c. p. 139.

"pinched" at the base or distinctly constricted below into a stipe-like base, and in *N. interius* and *N. Nuttallii* not at all constricted below. The two trees I have under observation both have the fruit not at all "pinched" at the base or constricted into a stipe-like here.

Dr. Rydberg and Dr. Nieuwland agree that *N. Nuttallii* has leaflets with tufts of hairs in the axils of the veins, and that *N. Negundo* has leaflets glabrous or nearly so at maturity. The tree I am calling *N. Nuttallii* has these tufts of hairs in the axils of the veins, but the one I take to be *N. interius* has not this character.

Dr. Nieuwland[1] says that in *N. Negundo* the secondary veins and mesophyl of the leaflets are not conspicuous, and the leaves are thin and membranous.[2] The tree I take to be *N. Nuttallii* has the secondary veins and mesophyl of the leaflets conspicuous and the leaflets are thick and very veiny.

According to Dr. Nieuwland[3], *N. Negundo* seems almost totally absent from the Middle West, but I have seen trees I take to be *N. Negundo* in Southern Kansas, Southwestern Missouri and Northern Arkansas. That the preponderance of evidence is in favor of the tree I am calling *N. Nuttallii* being that species, is, that Nuttall was here at Courtney, Missouri at the beginning of the 19th century, and he gives as the range of his *Negundo fraxinifolium*, "Northwestward on the banks of the Missouri to the Mountains." The tree I am calling *N. interius* can not be *N. Negundo* for the reason that it has densely velvety-pubescent twigs, thick rugose leaflets, secondary veins and mesophyl prominent and whitish, fruit not "pinched" at base, wings of fruits scarcely not at all decurrent on fruit body, and leaves frequently bipinnate.

*Courtney, Missouri.*

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## Notes on Priority of Plant Names.

BY J. A. NIEUWLAND.

### CATHARANTHUS.

It is difficult to see why the new name *Ammocallis*[4] was used for a segregate genus from *Vinca*, when there was at least one

1 Nieuwland, l. c. p. 136.
2 Nieuwland, l. c. p. 136.
3 Nieuwland, l. c. p. 138.
4 Small, J. K., Fl. SE. U. S. p. 935, (1903) also 2nd Ed. (1913).

valid older one. *Vinca rosea* Linn. was first taken out of the genus and made the type of a new one by Reichenbach[1] under *Lochnera*. There was, however, an older *Lochneria* Scopoli.[2] In 1833 S. Don founded the genus *Catharanthus*[3] with *Vincra rosea* Linn. and *Vinca pusilla* Linn. The former is mentioned first by Don and is therefore to be taken as type should there be any question of ambiguity as to successive segregation.[4]

**Catharanthus** S. Don l. c.
"*Vinca species* Linn." l. c.
*Lochnera* Reichb. l. c. (1828) not *Lochneria* Scopoli (1777) l. c.
*Ammocallis* Small (1903), (1913) l. c.

**Catharanthus roseus** G. Don. l. c.
*Lochnera rosea* Reichb. l. c.
*Ammocallis rosea* Small l. c. p. 936.
*Vinca rosea* Linn. Syst. Ed. x. p. 944, (1758).

NEZERA.

Rafinesque's genus *Nezera*[5] is evidently based on the *Linum striatum* of Walter. Dr. Small[6] accepts Reichenbach's[7] later name *Cathartolinum* based on the type *Linum Catharticum* Linn. As long as the two types are retained in the same group segregate, we would expect that the older name be taken up as dictated by the rules of priority. Following is the diagnosis of Rafinesque, given here so that those to whom this author's work is not readily accessible, may use their own judgment as to the practical identity of *Nezera* and *Cathartolinum*, as far as our American species are concerned.

"899 NEZERA Raf. differs from Linum, calix with 5 segments unequal in size or shape, stamens equal to the calix, anthers oblong, styles 5 (p. 65) very long stigmas thick oblong capsule 5 locular.—

1 Reichenbach, H. G. L., Consp. Reg. Veg. p. 134, (1828).
2 Scopoli, J. A. Introd. p. 271, (1777).
3 Don. G., Gen. Hist. Dichl. Pl. IV., p. 95, (1838).
4 The Kew Index gives the date 1836 for Don's work, but volume 4 of the History has 1838 on the title page. The name *Lochnera* Reichb. was taken up by E. Spach, Hist. Nat. Veg. VIII., p. 526, (1 39), having *Vinca rosea* Linn. as type.
5 Rafinesque, C. S., New. Fl. N. Am. II., p. 64, seg. (1836).
6 Small, J. K., Fl. S. E. U. S. 2nd ed. p. 662, (1913) also N. Am. Fl. 25, p. 71. Britton N. L., Ill. Fl. II., p. 436, (1913).
7 Reichenbach, H. G. L., Handb. p. 306, (1837).

Another G. of the family Linidia besides those of my fl. tellur. Habit similar, but the inequality of calix is very striking and generic. The name means *not true flax*, and several sp. of it are perhaps blended in Linum. . . ."

"901 NEZERA ALBIFLORA Raf. Linum *striatum* Walter in Coll. herb. stem virgate simple subangular, leaves linear acuminate adpressed, margin rough, upper subulate, flowers subcorymbose. few, peduncles equal to calix segments ovate acuminate uninerve. petals obovate—Hills of Georgia and Carolina, pedal slender, leaves smaller and not so crowded as in the last, flowers with 3 corymbose branches bearing 2 or 3 flowers, the lateral on short peduncles, calix with unequal segments but of uniform shape, petals white smaller than in the last and narrower obtuse not flabellate. Stem not striate as it ought to be in *L. striatum* of Walter omitted by all our botanists.—I find in a collection of plants made in Texas by Drummond (and sent me by Torrey without names, altho' (p. 66) he says that Hooker has named them in his compendium) two new Flax apparently of this genus which I have designated as follows. . . ."

The *Nezera albiflora* Raf. which he declined to call *Nezera striata* because he failed to find in the dried plant the striations he mentions is therefore considered by him as also the Kew Index as *Linum striatum* Walter, or *Cathartolinum striatum* (Walt.) Small which heads the list of segregates in that author's flora. Other species are *N. virginiana* (L.), *cathartica* (L.), *sulcata* (Redd), *rigida* (Pursh.), etc. Linum do. of the manuals.

## ANYCHIASTRUM SMALL, A SYNONYM.

In the New Flora of North America Rafinesque proposed the genus *Buinalis*[1] typified by *B. floridana*. As a synonym he gives "*Herniaria floridana* Bald. do." On the authority of the Index Kewensis this is identified with *Paronychia Baldwinii* (T. & G.) Fenzl,[2] or *Anychia Baldwinii* T. & G.[3] On studying the description of Rafinesque, it would appear that the conclusion of the Kew Index seems unwarranted; for there is a considerable discrepancy between the plant we know as *Paronychia Baldwinii* (T. & G.) Fenzl, or *Anychiastrum Baldwinii* (T. & G.) Small, and

1 Rafinesque C. S., New Flora of N. Am. Neobotanon, p. 40, (1836).
2 Fenzl. in Walp. Rep. 1, p. 262, (1842).
3 Torrey, J. & Gray, A. Fl. N. Am. 1, p. 172, (1838–40).

the plant Rafinesque must have had in mind when he proposed the genus *Buinalis*, as is evident from the description thereof herewith appended.[1]

Another genus is proposed by the same author, that is

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1 As the works of Rafinesque are rare we think it best to reproduce the publication of both *Buinalis and Plagidia*.

Rafinesque, C. S. New Flora and Botany of North America, Philadelphia, (1836), p. 40.

830 BUINALIS Raf. dioical. calix deeply 5 fid persistent, base turbinate with 5 tubercles at the clefts, segments flat edged and crowned by a thick colored membrane. Corolla none, male fl. with 5 stamens perigynous inserted on the calyx short filiform fertile, and 5 alternate sterile without anthers, sometimes lacking. In female fl. ovary ovate, stple filiform elongate stigma simple. Fruit Akena ovate smooth monosperm. *Stem articulate*, leaves opposite sessile entire stipulate, flowers fascicled—a new G. or fam. It differs from my *G. Steiremis* in fl. tellur. by dioical single calix, free stamens, etc. It has the habit of Herniaria and Anychia to which it is also related but differs by dioical flowers and single style, besides the calix not angular not acute, etc. The name was an old latin one of Herniaria.

831 BUINALIS FLORIDANA Raf. Herniaria Americana Coll. herb. Anychia floridana Baldw. do—prostrate diffuse subdichotome fuscate, leaves sessile cuneate or obovate obtuse or sub- (p. 41) acute, entire thickish; flowers sessile terminal in leafy ramulose.—In the sands of Florida, found by Baldwin, perennial, almost suffruticose, stems 3–6 inches long, very ramose, stipules scariose ovate acuminate, leaves small 2–3 times long, quite brown in the dry specimens; flowers minute dark purple margined of white the ends of segments truncate almost retuse forming a vault but not a hood. These flowers are at the ends of the small branches crowded with small leaves and stipules.

834 PLAGIDIA Raf. difference from Anychia, calix conical pentagonal, segments unequal acuminate not hooded, stamens 5 fertile. Style bifid, 2 stigmas acute. *Annual plants? leaves obliqual broader, flowers in dichotomies.* The name derives from the double obliquity of the leaves. All these genera belong to the AMARANTHIDES. . . .

p. 43. 839 ARGYROCOMA IMBRICATA Raf., etc.

. . . . A third spieces Par. sessiliflora N. but his *P. hernarioides* is probably of next genus.

840 PLAGIDIA RUFA Raf. Anychia hernarioides Mx ? dichotome scabrous, much branched astigiate entirely rufous, leaves obliqual crowded elliptic mucronate ciliolate, stipules lanceolate acuminate, flowers solitary.—Described from a specimen from Florida anonymous in Collins herb. apparently the plant of Mx. but I can't be certain as he omitted the singular obliquity of the leaves almost as in Chamasyke, and the striking rufous color almost like snuff of the whole plant even the stipules, about 3 inches high, leaves 3 lines long, quite obliqual at the base altho's sessile, flowers few and small.

*Plagidia.*[1] The name as customary at times is suggested as a subgenus if not acceptable as genus, and accordingly not dignified by being put in type quite as large as the other genera in the work. That Rafinesque's mind was primarily to propose a real genus, and not simply a subdivision or subgenus in this particular case is evident from the fact that he further on he names and gives the characters of the types species as *Plagidia rufa* Raf.[2] The author seems to have some doubt as to the identity of this type with the *Anychia hernarioides* Mx., because Michaux omitted one or characters which Rafinesque considers important in his type. Comparison of the characters described under *Plagidia* and *Plagidia rufa* Raf. herewith reproduced with Michaux' *Anychia hernarioides*,[3] latter called *Paronychia hernarioides*, and transferred by Small to his genus *Anychiastrum*, shows that it is identical with Rafinesque's *Plagidia rufa* in every minute respect. Dr. Small has designated as the type of his segregated genus above mentioned, *Paronychia riparia* Chapm.[4] and includes also *Paronychia Baldwinii* (T. & G.) Fenzl. and *Paronychia hernarioides* (Michx.) Nutt. Although Rafinesque's type and Small's type are not the same, it would seem that as long as the two plants are not considered distinctively different enough to be in separate genera, any group containing the two should be given the older name. We therefore transfer the plants under the name *Plagidia* which possesses priority.

**Plagidia** Raf. l. c. p. 42, (1836), (*Buinalis* Raf.? acc. to deduction on authority of Kew Index) not of *Buinalis* Rafinesque acc. to description.

*Anychiastram* Small l. c. p. 400, (1903).

*Paroynchia* Adans. Fam. des Pl. 2, p. 272, (1763) segregate.

**Plagidia hernarioides** (Michx.) Nwd.

*Anychiastrum hernarioides* (Michx.) Small, l. c.

*Plagidia rufa* Raf. l. c. p. 43, (1836). (Rafinesque's type of *Plagidia.*

*Paronychia hernarioides* (Michx.) Nutt.

**Plagidia Baldwinii** (T. & G.) Nwd.

(*Buinalis Baldwinii* Kew. Index. not Raf. l. c. p. 43.

1 l. c. p. 42. 2 l. c. p. 43.

3 Michaux, A., Fl. Bor. Am. 1, p. 172, (1803).

4 Chapman Fl. S. U. S. Supp. p. 607, (1860).

*Anychiastrum* Baldwinii (T. & G.) Small l. c.
*Paronychia Baldwinii* (T. & G.)

**Plagidia riparia** (Chapm.) Nwd.
*Anychiastrum riparium* (Chapm.) Small, l. c. (Small's type of *Anychiastrum*).
*Paronychia riparia* Chapm.

**Plagidia montana** (Small) Nwd.
*Anychiastrum montanum* Small Torreya 101, p. 230, (1910).

VITICELLA

Dr. Small[1] in adopting the name *Viticella* for the segregated genus with *Clematis Viticella* Linn. as a type, did not take the valid name whether 1753 be accepted as the "starting point" for nomenclature, or absolute historical priority admitted. The name seems to have been used for that plant as type of a new genus by Dillenius in his treatise, Nova Plantarum Genera p. 165, (1719). Neither the first[2] nor the second[3] edition of his Hortus Elthamensis have any record of *Viticella*, most likely because the plant was not found in the Eltham Gardens, and the first publication since 1753 of this *Clematis* segregate is that of Moench[4] to whom the genus should be attributed by the followers of the American and Vienna Codes. Before Linnaeus *Viticella* was used by Caesalpinus for *Clematis Flammula* Linn., by Matthaeus Sylvaticus for *Bryonia alba*, and before the time of Dodonaeus for a cucurbitaceous plant by some. The name is not a most desirable one at that in a good system of nomenclature, being a misnomer, and objectionable in the Linnaean as a diminutive form of the existing name *Vitex*. This *Viticella* as used since 1753 is, moreover, antedated by another *Viticella* Mitchell[5], (1769) the identity of which has been variously interpreted by a number of

1 Small, J. K. Fl. S. E. U. S. (1903) p. 437.
2 Dillen, J. Hort. Eltham. (1732).
3 Dillen, J. Hort. Eltham. (1774).
4 Moench, C. Meth. Plant. p. 296, (1794).
5 Mitchell, Dr. J. Dissertatio Brevis de Prin. Botan. & Zool., cum Append. aliquot. Gen. Pl. recens cond. and in Virginia Obs. Norimbergae, impensis Wolfgangi Schwarz-Kopfii (1769), 4, 46. p. (See Pritzel 1st and 2nd editions also Kuntze, O. Rev. Gen. Pl. I, p. 519, (1893). The first edition of Mitchell's work came out in Act. Ac. Carol. 8, or Ephem. Norimb. (1748). This was, however, by the author given as follows, "Dabam ex aedibus meis Virginiae 11, 3, (1741).

authors, to be shown further on. Whatever, Mitchell's name be applied to or whether not with absolute certainty applied to any known plant heretofore, there can be no question that Moench's later application must be displaced by another even if a new one must be made. The next name in order for the *Clematis* segregate is perhaps *Sieboldia* Hoffing.[1] Of this genus *Clematis florida* Thunb. or *Clematis japonica* Thunb. should be type. Spach[2] who admits Moench's *Viticella* puts the former of these in that genus as *Viticella florida* DC so for this reason was *Sieboldia* Hoffing suggested here. *Sieboldia Viticella* (Linn.) or *Clematis Viticella* Linn., may therefore be put in this genus unless the type were the other plant *Clematis japonica* Thunb. or *Sieboldia japonica* (Thunb.) Hoffmg. In the latter case *Sieboldia* would be but an unconditional synonym perhaps of *Clematis* itself.[3]

As to the identity of *Viticella* Mitchell (1748 and 1769) more than one suggestion has been made. Brand[4] apparently unmindful that Mitchell's treatise of 1748 was also republished in 1769, and apparently on the authority of Asa Gray[5], states that it was meant for *Hydrophyllum appendiculatum* Linn. The Index Kewensis also maintained this supposed equivalence. Brand fails to explain why *Viticella* Mitchell (1769) was not taken up by him for the much later *Decemium* Raf.[6] (1817), unless he was unaware of the 1769 edition of Mitchell, or unless he saw that the *description* of Mitchell was but very questionably applicable to *Hydrophyllym appendiculatum* Linn. Comparison even superficial, of the character of this plant with Mitchell's publication of *Viticella* shows that the description not only varies much but is in many respects indeed contradictory and quite inapplicable.

Adanson[7] in reference of course to the publication in the first edition of Mitchell's work, and likewise Boehmer[8] consider

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1 Hoffmannsegg, J. C. Preisv. Nachtr. p. 28, (1842).

2 Spach, E. Hist. Nat. Veg. 7, p. 264, (1839).

3 As I have been unable to study Hoffmannsegg's work it may be that, the other plant be the type, and in case the genus *Sieboldia* be inapplicable I suggest the name *Atrichlema* to replace *Viticella* (Dill) Moench.

4 Brand, A. Das Pflanzenreich IV, 251, p. 36, (1913).

5 "*Teste A. Gray*" l. c.

6 Rafinesque, C. S. Fl. Ludov. p. 34, (1817) in obs.

7 Adanson, M. Fam. des Pl. 2. pp. 226, 560, 619, (1763).

8 Boehmer, G. R. in Ludwig-Boehmer, Def. Gen. Pl. p. 27, (1760).

his *Viticella* equivalent to *Galax* Linnaeus; this probably becuase Linnaeus[1] himself mistakenly mentions this name in synonymy with his *Galax*. Spach[2] too, accepts the same opinion, all having overlooked the fact that the description of Mitchell is not at all applicable. His description can in no way be applied to the Linnaean *Galax*, the latter having only two to four segments on the calyx, while Mitchell's plant had five small lanceolate reflexed, alternating, shorter segments." More than likely it was because of these and other misrepresentations, and injustices that Mitchell's work was deemed necessary for republication in 1769, this edition being considered a protest against the disregard of Linnaeus of his first publication. Little heed was paid, however, to this latter edition, or still is, for that matter, as regards, for example, credit for publication of *Aphyllon*, *Pentstemon* and *Viticella*.

As may be readily seen by those who compare the description of Mitchell's *Viticella* here given,[3] with *Galax*, or *Hydrophyllum app.ndiculatum*, the discrepancies are too great to favor the views of those authors already referred to. It seems, however, on studying and comparing this description that it applies very accurately to a plant then unrecorded apparently, but which in fact Mitchell may have had both at hand and in mind, when he published *Viticella* in the list of genera omitted by Linnaeus in the edition of the Genera Plantarum of 1737 to which it was proposed as supplement by its author. I refer to the plant called by Nuttall later, *Ellisia microcalyx*,[4] now called *Nemophila microcalyx* (Nutt.)

1 Linnaeus, C., Sp. Pl. p. 200 (1753), p. 289 (1763).

2 Spach, E. Hist. Nat. Veg. 9, p. 444 (1840).

3 Following is the text of Mitchell's description, p. 42, l. c.

XXIV. VITICELLA, *Cal. perianthium* decaphyllum, foliolis alternis, externis brevioribus, lanceolatis, reflexis; internis longioribus lanceolatis acutis erectis.

*Cor.* monopetala hypocrateriformis, tubus cylindricus calyce ferme brevior; limbus planus, quinquefidus laciniis obtusiis.

*Stam. filamenta* quinque parva, brevia, corolla adnata, *Antherae* subrotundae in collo corollae conniventes.

*Pist.* germen ovatum villosum. *Stylus* filiformis, semibifidus, longitudine staminum. *Stigma* subrotunda.

*Per. capsula* ovata, unilocularis, (bivalvis membranacea, colorata) vi elastica praedita.

*Sem.* duo, magna, plano-concava, ovata, dura, callosa; quasi unicum bilobum.

4 Nutfall, T. Trans. Am. Phil. Soc. N. Ser. V, p. 191 (1833 or 1837).

Fisch & May,[1] and called by Muhlenberg *Hydrophyllum pusillum* according to Nuttall. This plant is reported from Virginia on the authority of Gray.[2] The name *Viticella* would then seem an older and valid one for the genus *Nemophila* Nuttall[3] as typified in this case by *N.* or *V. microcalyx*. The name would then supplant *Nemophila* which it antedates by more than fifty years.

TRIORCHOS.

The name *Triorchos* Small and Nash[4] is so much like *Triorchis* Petiver-Millan[5] both in sound and even ultimate derivation that it becomes a homonym. I suggest that **Smallia** take its place.

*Dept. of Botany,*
*Notre Dame, Ind.*

## Our Birds in the Winter of 1912-13.

BY BROTHER ALPHONSUS, C. S. C.

In December, the temperature remained above freezing point until the 7th, but after that date it was generally below 32°. The records in this article begin on the above date. Throughout the winter there were days when the weather was exceedingly mild, a fact that would account for the presence of certain species that I had not observed before in any winter. Such were the Northern Shrike and Herring Gull. In March, the weather was cold up to the 8th, when the temperature rose to 38°; and the next day the first Robins appeared. This date marked the end of winter.

In December, the Blue Jay was present on 10 days, with the longest interval of 11 days. In January, it was seen on 15 days, with the short interval of 2 days. In February, it was observed on 9 days, the longest interval being 5 days. In March, there were but two records, with an interval of 6 days.

1 Fisch and Mey. Sert. Petropol. t. 8, (1846).

2 Gray, A. Man. Bot. N. U. S. p. 327 (1858. "*Rich moist woods* Virginia near Washington) and southward.

3 Nuttall, T. Jr. Phil. Acad. 2, p. 179 (1822).

4 Small, J. K. Fl. S. E. U. S. p. 329 (1903).

5 Petiver-Millan Op. Hist. Nat. Spect. II. (1764) Gazophyllacium, t. 68, 7. See Am. Mid. Nat. III. p. 122, (1913).

In December, the Snowbird was observed on 12 days, with the greatest interval of 8 days. In January, it was seen on 10 days, the longest interval being 5 days. In February, it was present on 12 days, with 8 days as the longest number absent. In March, it was seen on 6 days, with only an interval of 1 day.

Last winter the Snowbird was not recorded between Jan. 29 and Mar. 20—50 days. From this fact the writer concluded that the species had migrated for this period. During the present winter the Snowbird was observed from Jan. 22 to Mar. 11—47 days—only in the vicinity of a certain dump-pile. If the writer had not visited this place, he would naturally have surmised that the species had left this locality. Instead of a migration, then, there was a very restricted distribution of the species. But he still believes that the Snowbird migrated last winter, for he failed to find any of the species near the same dump-pile.

In December, the Crow was observed on 7 days, the longest interval being 9 days. In January, it was present on 25 days, and the longest absence was 7 days. In February, the species was seen on 20 days, with a short interval of 3 days. In March, 5 days present and an interval of 2 days was the record. The Crow is the most widely distributed species in winter: this season it was observed on 57 days.

In December, the White-breasted Nuthatch was present on 10 days, with the longest interval also 10 days. In January, the species was recorded on 12 days, and the longest absence was 7 days. In February, 17 days present and a short interval of 2 days was the record made. In March, the species was seen on 3 days, and not seen for 5 days. Next to the Crow, the White-breasted Nuthatch is our most abundant winter species—42 days present this season.

Among rare species observed this winter were the Song Sparrow, Hairy Woodpecker, Chickadee and Northern Shrike. During four winters, the last named species was observed only on the dates given in this article. The Song Sparrow was found only on Dec. 2, 1911 and Dec. 14, 1912. The Chickadee was recorded only on Feb. 11, 18, 1911 and on the dates given below. The Hairy Woodpecker was found only on Mar. 2, 1912 and Jan. 11, 1913.

Other species are comparatively rare also, but appear with more regularity. These are the Brown Creeper, Tree Sparrow and Snowflake. This winter the Creeper was recorded twice in Decem-

ber and once in February. Last winter this species was seen on 7 days in December and once in February. In the winter of 1911–12, the Tree Sparrow appeared as follows: Dec. 1, 25; Jan. 31; Feb. 15 to 18, 20, 23, 24, 27, 28; Mar. 1. The Snowflake was recorded on Jan. 16, 1911; Mar. 2, 3, 1912.

The Downy Woodpecker is the only species that is neither very rare or very common in winter. In December, it was seen on 4 days, with three intervals of 6 days and one of 7 days. In January, the species was found on 6 days, with two long intervals of 8 days and several short intervals. In February, this woodpecker was present only on 3 days, with the longest interval of 14 days. In March, the only record was on the 8th.

Two records worthy of comment were the Herring Gull on Jan. 17 and the Bluebird on Feb. 19. This was the first time in winter that the writer observed the Herring Gull in the vicinity of small inland lakes. The Bluebird has been seen before in winter, but not with such a long interval between the first and second observations. This year the first record of the species was made on Feb. 19 and the second on Mar. 11—an absence of 19 days. On Feb. 19 the temperature rose to 60°, but was followed by cold, stormy days for about two weeks.

Species not seen this winter: Goldfinch, Screech Owl, Evening Grosbeak, Hell Diver, Bobwhite, Cardinal, Sparrow Hawk, Redpoll, Robin.

### December.

Birds seen on the dates after their names:

Blue Jay 7, 8, 9, 12, 14, 16 to 19, 31.
Crow 7, 14, 15, 16, 26, 27, 31.
Song Sparrow, 14.
White-breasted Nuthatch 11, 14, 17, 18, 19, 20, 24, 25, 26, 31.
Chickadee 8, 9, 10, 11, 13.
Snowbird 7, 8, 9, 11, 14, 15, 16, 17, 18, 20, 29, 31.
Downy Woodpecker, 7, 14, 21,23
Brown Creeper, 18, 19.
Northern Shrike, 7.

Total number of species seen, 9.

### January.

Birds seen on the dates after their names:

Blue Jay, 1, 4, 5, 7, 8, 9, 11, 13, 15, 17, 18, 21, 22, 25, 26, 28.
Crow, 1, 2, 4 to 9, 11, 12, 13, 17, 18, 19, 21to 29, 31.
Snowbird, 7, 9, 15, 21, 22, 24, 28, 29, 30 ,31.
Downy Woodpecker, 4, 13, 17, 20, 21, 22.

White-breasted Nuthatch 1, 9,10 11, 13, 17, 18, 19, 22, 24, 26, 29.
Hairy Woodpecker, 11.
Tree Sparrow, 22, 24.
Snowflake, 8.
Herring Gull, 17.

Total number of species seen, 9.

FEBRUARY.

Birds seen on the dates after their names:

Blue Jay, 1, 3, 9, 11, 17, 18, 20, 24, 28.
Crow, 1 to 5, 7, 8, 9, 11, 13, 14, 15, 17, 19, 20, 21, 24, 25, 27, 28.
Tree Sparrow, 16.
Snowflake, 2, 4, 5.
Northern Shrike, 15.
Bluebird, 19.
Snowbird, 1, 2, 3, 6, 7, 8, 11, 13, 16, 17, 18, 27.
Downy Woodpecker, 3, 18, 25.
White-breasted Nuthatch, 1, 3, 6, 8, 11 to 14, 16, 17, 19, 20, 22, 24, 25, 27, 28.
Brown Creeper, 24.

Total number of species seen, 10.

MARCH.

Birds seen on the dates after their names:

Blue Jay, 1, 8.
Crow, 1, 4, 5, 7, 8.
White-breasted Nuthatch, 6, 7, 8
Snowbird, 2, 3, 4, 6, 7, 8.
Downy Woodpecker, 8.
Tree Sparrow, 3, 4, 8.

Total number of species seen, 6.

Total number of species seen during the winter, 15.

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## Comparative Migration of Our Birds in Spring.

BY BROTHER ALPHONSUS, C. S. C.

In the first three years, 7 days were the greatest difference between the earliest and latest arrival of the Bluebird. In 1912, the date given, I think, was not the correct one; for I heard that the species had been seen sooner by other observers. Although I admit that my record was likely later than the true date of migration, still the fact that I did not observe the species until that date indicates that the very cold weather of early spring was the cause of the great scarcity ofthe Bluebird until late in March.

In the four years of our comparison, the greatest difference between the earliest and latest arrival of the Robin was 17 days. The fourth year being the one in which this species was 10 days later than in 1910, and 12 days later than in 1909, the usual time

for the Robin to arrive may be set down as the first or second week in March.

The Meadowlark shows as its usual time for arriving in spring the same as that of the Robin, with one late date in 1912. The late arrival in 1912 of all the early spring migrants clearly shows that cold weather is a determining cause of the delay of migrating birds in spring.

The Song Sparrow is quite regular in its time of arrival in spring, the first or second week in March, under usual conditions, always marking its advent. The observer is always sure of his date of migration when referring to this species, for it announces its presence on the very first day of arriving by its well-known song.

The Purple Grackle and Killdeer are two more species that are among the early March migrants, but like the species already mentioned, they will not brave cold weather in order to keep to this regular time of arriving.

The Mourning Dove usually arrives late in March, 15 days being the greatest difference in its time of arriving in the four years under comparison. The first three years show that this species may be looked for either in the third or fourth week in March.

In the Kingfisher, we have a species that shows 17 days as the greatest number between its earliest and latest arrival. The dates of the four years are so distributed as to establish the fact that this migrant may arrive either in the third or fourth week in March, or in the first or second week in April. The observer is quite sure of his dates in speaking of the Kingfisher, for the size of the bird and its aquatic habits make it unlikely that the species will not be seen on the first day of its arrival.

The Phoebe's dates for the four years mark the time of arrival for this species to be the last week in March or the first week in April. The Golden crowned Kinglet also arrived two years in the last week in March and two years in the first week in April.

The Cowbird showed one irregularity in arriving as early as March 16, 1910, while the other three years each give the first week in April as the usual time of migrating. This March date was 17 days sooner than the earliest date in April. Who can give a satisfactory explanation of this irregularity?

In the case of the Vesper Sparrow and the Flicker, the dates

show that these species usually arrive in the first week in April and move rarely in the last week in March. On the other hand, the Field Sparrow arrived three years in the last week in March and one year in the first week in April.

The Chipping Sparrow shows irregularity in the two dates in April—the first and the second weeks; but in March both dates are in the last week. In April, the Sapsucker shows great regularity, arriving three years in the second week; the one irregular date was in the last week in March.

The Hermit Thrush arrived two years in the first week in April and two years in the second week, 9 days being the difference between the earliest and latest date. The Brown Thrasher shows a little less irregularity, arriving three years in the third week in April, and having 7 days between the earliest and latest date.

The Purple Finch, in the two years that the bird made its appearance, shows regularity in its dates of arrival; there being but 5 days between the two dates.

The Towhee presents a case of great irregularity in migrating, there being no two years when the bird arrived in the same week. The greatest difference in the dates was 29 days.

The Barn Swallow came one year in the second week in April, another year in the third week, and in the remaining two years in the fourth week, the greatest difference between the earliest and latest date being 14 days.

The Red-headed Woodpecker shows the greatest disparity in its dates of migration of any species under consideration, 39 days being the difference between the earliest and latest date of arrival. The four dates are variously distributed in the third week, in March, first, second and fourth weeks in April.

The Red-winged Blackbird's dates present great differences, but I am sure that the date for 1909—April 20—can not have been the correct time of arrival. This species is usually found only in swampy places and unless such a place is visited, the observer may not see the bird until long after its arrival. The true time of migration for the Red-wing must, therefore, be set down as the first or second week in March.

The dates found in the four years show for the Myrtle Warbler a migration period of 16 days, and make the time of arrival as early as the third week in April and as late as the first week in May. The Ruby crowned Kinglet is still more irregular, with 22

days as the greatest difference in the earliest and latest dates of migration. The second and fourth weeks in April and the first week in May were the times of arrival for this species.

The Cardinal is really not a migrating species, but is very locally distributed at every season of the year, especially in winter. Unless the observer visits a river or swamp, he may fail to find a single individual for months together. During the spring of 1913, I head the Cardinal's note only on one occasion—when I went to the St. Joseph River early in May.

The House Wren, Yellow Palm Warbler, Chimney Swift, Yellow Warbler, Baltimore Oriole, Rose-breasted Grosbeak, Warbling Vireo, Orchard Oriole, Kingbird, Black-throated Blue Warbler, Catbird, Bobolink, Purple Martin, Bay-breasted Warbler, Canadian Warbler, Least Flycatcher, Red-eyed Vireo, Cedarbird and Yellow-billed Cuckoo—all show regularity in their dates of migration, there being not more than 8 days between the earliest and latest date of arrival.

The Indigo Bird arrived, in the four years, in the first, second and third weeks of May, with the greatest difference 12 days. The Maryland Yellowthroat arrived in the second and fourth weeks of May. The Redstart came the last week in April and the first and second weeks in May, with 17 days between the earliest and latest date.

The Dickcissel arrived two years in the second week in May and one year in the third week, no record of the species having been made at any time in 1912. This bird, like the Purple Finch, does not appear some years.

The Nighthawk and Whip-poor-will show irregularity in their times of migration. In the case of the latter species, however, I think my dates are not correct; for my observations in spring were made in woods near a town, which this migrant does not enter, except rarely. I should put the true time of arrival, from what reports I have heard, as the first week in May.

| | 1909 | 1910 | 1911 | 1912 |
|---|---|---|---|---|
| Bluebird | Mar. 1 | Feb. 22 | Feb. 23 | Mar. 25 |
| Robin | " 2 | Mar. 4 | " 25 | " 14 |
| Meadowlark | " 5 | " 6 | Mar. 9 | " 19 |
| Song Sparrow | " 6 | " 5 | " 9 | " 22 |
| Purple Grackle | " 7 | " 6 | " 9 | " 19 |

| | 1909 | 1910 | 1911 | 1912 |
|---|---|---|---|---|
| Killdeer | Mar. 9 | Mar. 4 | Mar. 9 | Mar. 14 |
| Mourning Dove | " 19 | " 28 | " 24 | Apr. 3 |
| Kingfisher | Apr. 3 | " 30 | " 22 | " 8 |
| Phoebe | " 3 | " 29 | " 22 | " 2 |
| Cowbird | " 5 | " 16 | Apr. 2 | " 6 |
| Vesper Sparrow | " 5 | " 26 | " 9 | " 1 |
| Flicker | " 5 | " 24 | " 5 | " 10 |
| Field Sparrow | " 6 | " 25 | Mar. 21 | Mar. 31 |
| Golden-crowned Kinglet | " 7 | " 30 | " 22 | Apr. 6 |
| Chipping Sparrow | " 10 | " 29 | " 30 | " 5 |
| Sapsucker | " 11 | " 26 | Apr. 11 | " 12 |
| Hermit Thrush | " 13 | Apr. 4 | " 11 | " 5 |
| Purple Finch | " 14 | | " 9 | |
| Brown Thrasher | " 17 | " 10 | " 16 | " 15 |
| Towhee | " 17 | Mar. 19 | " 8 | " 2 |
| Hell Diver | " 19 | " 31 | " 27 | |
| Barn Swallow | " 19 | Apr. 27 | " 26 | " 13 |
| Red-headed Woodpecker | " 20 | " 4 | Mar. 18 | " 26 |
| Red-winged Blackbird | " 20 | Mar. 5 | " 9 | " 2 |
| Myrtle Warbler | " 20 | May. 2 | Apr. 26 | " 16 |
| Cardinal | " 20 | Apr. 7 | May 7 | Mar. 18 |
| Ruby-crowned Kinglet | " 22 | " 10 | Apr. 25 | May 2 |
| House Wren | " 23 | " 28 | " 29 | " 3 |
| Yellow Palm Warbler | " 26 | May 3 | " 30 | " 5 |
| White-crowned Sparrow | " 27 | | | |
| Chimney Swift | May 3 | " 8 | May 3 | " 1 |
| Wilson's Thrush | " 3 | | | |
| Yellow Warbler | " 5 | " 2 | Apr. 27 | May 3 |
| Baltimore Oriole | " 5 | " 2 | May 3 | " 2 |
| Rose-breasted Grosbeak | " 5 | " 8 | | " 13 |
| Indigo Bird | " 5 | " 17 | May 17 | " 14 |
| Warbling Vireo | " 6 | " 3 | Apr. 30 | Apr. 30 |
| Orchard Oriole | " 7 | " 10 | May 8 | May 4 |
| Kingbird | " 8 | " 4 | Apr. 30 | " 2 |
| Black-throated Blue Warbler | " 9 | | | " 4 |
| Goldfinch | " 11 | Apr. 2 | Apr. 6 | Mar. 21 |
| Catbird | " 7 | May 7 | May 2 | May 2 |
| Maryland Yellowthroat | " 11 | " 11 | Apr. 27 | |
| Redstart | " 12 | " 4 | " 25 | May 3 |

| | 1909 | 1910 | 1911 | 1912 |
|---|---|---|---|---|
| Bobolink | May 13 | May 14 | May 7 | May 13 |
| Purple Martin | " 13 | " 8 | " 7 | |
| Blackburnian Warbler | " 13 | | | May 3 |
| Scarlet Tanager | " 19 | May 10 | May 15 | " 2 |
| Bay-breasted Warbler | " 19 | " 16 | | " 13 |
| Dickcissel | " 19 | " 12 | May 10 | |
| Least Flycatcher | " 22 | " 14 | | May 22 |
| Canadian Warbler | " 24 | | | " 19 |
| Tennessee Warbler | " 24 | | | " 3 |
| Wood Pewee | * | May 20 | May 10 | May 6 |
| Crested Flycatcher | May 27 | May 10 | May 10 | " 6 |
| Nighthawk | | June 3 | May 1 | " 19 |
| Yellow-throated Vireo | | May 4 | | " 19 |
| Red-eyed Vireo | * | " 21 | May 17 | May 19 |
| Warbling Vireao | * | " 3 | Apr. 30 | Apr. 30 |
| Alder Flycatcher | May 25 | " 12 | May 28 | May 20 |
| Least Flycatcher | " 22 | " 18 | | May 22 |
| Cedarbird | " 27 | June 1 | May 31 | " 24 |
| Whip-poor-will | | " 15 | May 8 | " 26 |
| Yellow-billed Cuckoo | May 28 | May 30 | " 20 | " 27 |

* Record lost.

## Linnaea americana in Indiana.

*Linnaea americana* Forbes is regarded a decidedly more northern plant than would be expected in our flora. Its presence in a bog at the lower end of Lake Michigan near Mineral Springs (Porter Co.), where I found it this fall, may be accounted for by the fact that the prevailing cold winds from the north that built the dunes make the region somewhat boreal. Other more northern plants associated with it are *Cornus canadensis* Linn. and *Thuja occidentalis* Linn. Of the latter there are still some trees over twelve inches in diameter, and a rather good growth of saplings.

For *Apocynum tomentellum* Nwd. Am. Mid Nat. III., p. 55, substitute *Apocynum tomentulosum.* There was another plant of that name, Greene E. L. Leaflets etc. Vol. I. p. 58.